

Large larva. Head 2.8 mm., rounded, black, with many coarse white setae both primary and secondary; small, not as high as joint 2. Body cylindrical, uniform, feet normal. On thorax four tubercles, on abdomen three on each side of each segment, two only on the ninth abdominal, one on the tenth (anal plate), all paired, no median ones. Tubercle i on joints 4, 5, and 12 slightly prominent, the others rounded and about as long as wide, the lower row flat, indicated only by the hairs. They bear few stiff white hairs with black annulus. Skin rather thickly covered with white secondary hairs, less coarse than the primary ones, directed obliquely backward. Color black, a dorsal band of yellow dots each centered by a secondary hair, absent in the incisures; a white subdorsal line (below i) broken into dashes; a wavy substigmal white line; warts dark red. Many of the secondary hairs arise from faint whitish dots; leg plates reddish black.

Pupa. Head piece with a central ridge; antenna cases large, strongly segmented; abdomen with three moveable incisures, square, subfurcate at tip with two remote clusters of spines. Whole surface coarsely shagreened, the posterior dorsal edges of the abdominal segments also pitted. Color bronzy brown, the incisures blackish. Length 23 mm., width 9 mm.

(Arizona, Koebele collector, coll. U. S. N. M.)

A NEW LECANIUM ON MAGNOLIA FROM FLORIDA.

I. DESCRIPTIVE; BY T. D. A. COCKERELL, N. M. AGR. EXP. STA.

Lecanium turgidum, n. sp.—♀ scale $5\frac{1}{2}$ mm. long, $4\frac{1}{2}$ wide, $3\frac{1}{4}$ high. Dark reddish-brown, very shiny, swollen into irregular pustule-like prominences, with large punctiform depressions between.

♀. Boiled in caustic soda, turns the liquid dark sepia, and gives a slight musky odor. Dermis chitinous, orange-brown, not reticulated, presenting numerous small gland-spots. Marginal spines excessively minute. Mouth parts very small, rostral loop very short. Antennae very small, short and very stout, bristly at tip, segmentation obscure. Legs. very small and stout. Coxa considerably broader than long; femur very broad, and not much longer than broad; tibia and tarsus also extremely broad; tibia a little longer than tarsus, and about one fourth longer than broad. Claw short and stout, much curved. Digitules comparatively short, filiform.

The embryonic larva is remarkable for the large marginal spines, about 17 on each side.

Hab.—On twigs of *Magnolia glauca*, April 22, 1897, at Lake City, Florida. (Quaintance No. 24). This species is unusually interesting, being intermediate between the subgenus *Eulecanium* of the north, and the peculiar *L. parvicorne* of Florida, which itself exhibits characters transitional to the southwestern subgenus *Tuomeycella*. The depressions of *L. turgidum* correspond to the pits of *parvicorne*.

L. magnoliarum Ckll., found by Mr. Ehrhorn on Magnolia at San José, Calif., is quite different, being 8 mm. long, $4\frac{1}{2}$ wide, and $2\frac{1}{2}$ high, with 8-jointed antennae, formula 3 (451) (28) 67 varying to 3 (41) 52 (86) 7.

II. BIOLOGICAL; BY A. L. QUAINTEANCE, FLA. AGR. EXP. STA.

Lecanium turgidum is quite common on both *Magnolia glauca* and *M. grandiflora* at Lake City. The young appear during April in considerable numbers. These crawl out on the new wood and leaves of infested branches, frequently almost covering them. Proportionately few of these reach maturity, however, as they are attacked by a number of parasites. The life cycle appears to be about one year.